Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

West Fork Black River

Waterbody Segment at a Glance:

County: Reynolds
Nearby Cities: Centerville, Bunker
Length of impairment: 0.2 miles
Pollutant: Nutrients
Source: Doe Run West Fork Mine


State map showing location of watershed

TMDL Priority Ranking: Low

Description of the Problem

Beneficial uses of West Fork Black River

- Livestock and Wildlife Watering
- Protection of Aquatic Life: Cool Water Fishery
- Protection of Human Health associated with Fish Consumption
- Whole Body Contact Recreation (Swimming)

Use that is impaired

- Whole Body Contact Recreation (Swimming)

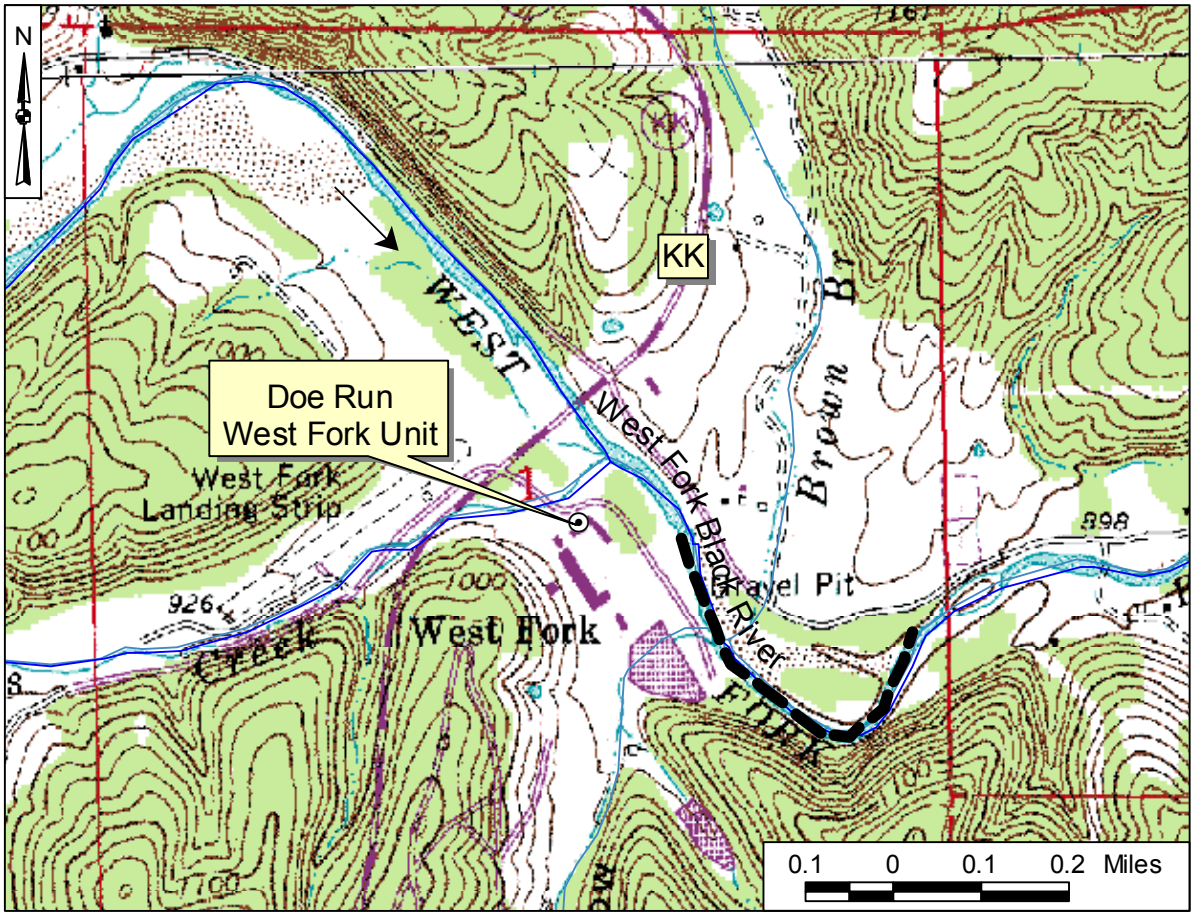
Standards that apply

- Standards for nutrients are found in the general criteria section of the WQS, 10 CSR 20-7.031(3)(A) and (C) where it states:
  - Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses and
  - Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.

Background Information

West Fork of the Black River is listed on the 2002 303(d) list of impaired waters due to elevated levels of nutrients in the water that is causing algal blooms. As a result of the mining procedure, underground water pumped from the West Fork Mine contains nitrogen and phosphorus. When this water is discharged into the river, it stimulates excessive growth of algae on the stream bottom. The affected area includes a popular swimming hole. The Missouri Department of Natural Resources (the department) has received many complaints in recent years about unsightly bottom growths in

this swimming area. A water quality study by the University of Missouri-Rolla found elevated levels of nutrients and a change in algal species composition downstream of the mine discharge. Department staff has also observed an increase in bottom growths of algae in this area compared to portions of the West Fork upstream of the mine discharge. Measurements of benthic algal biomass in West Fork upstream and downstream of the West Fork mine discharge were made in 2002 and 2003. These measurements did not indicate any significant difference in the amount of algae found upstream and downstream of the West Fork mine. Dominant algal taxa upstream of the discharge included pinnate diatoms, *Spirogyra* sp. and *Mougeotia* sp. Downstream of the discharge pinnate diatoms were the dominant taxa. Because of these findings, West Fork Black River will be delisted in the next listing cycle.



Impaired Segment Direction of Flow

For more information call or write:
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